



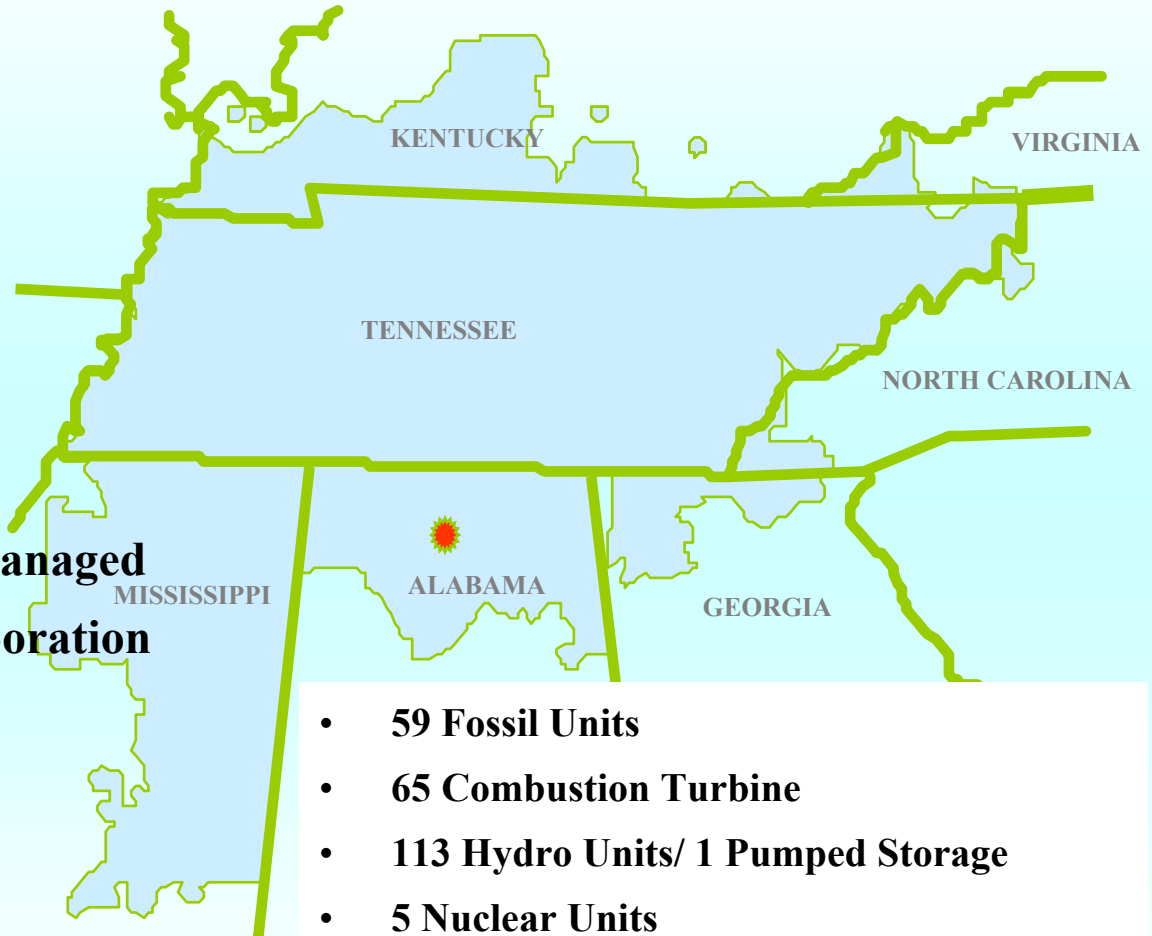
Energy, Environment & the Economy



TVA Today - 2002

TVA:

- \$7.0 B Annual Revenue
- \$33.9B Assets
- 30GW Generation Capacity
- 17K Miles of Transmission
- 11,000 Miles of Shoreline Managed
- Wholly-owned Federal Corporation
- No Appropriated Funds
- 8M Customers Served
- 13,500 Employees



- 59 Fossil Units
- 65 Combustion Turbine
- 113 Hydro Units/ 1 Pumped Storage
- 5 Nuclear Units
- 3 Wind Turbines/ Solar/ Landfill
- Digester Gas/Biomass Co-firing

TVA and it's Power Distributors

TVA



**Transmission Towers
And Lines**



158

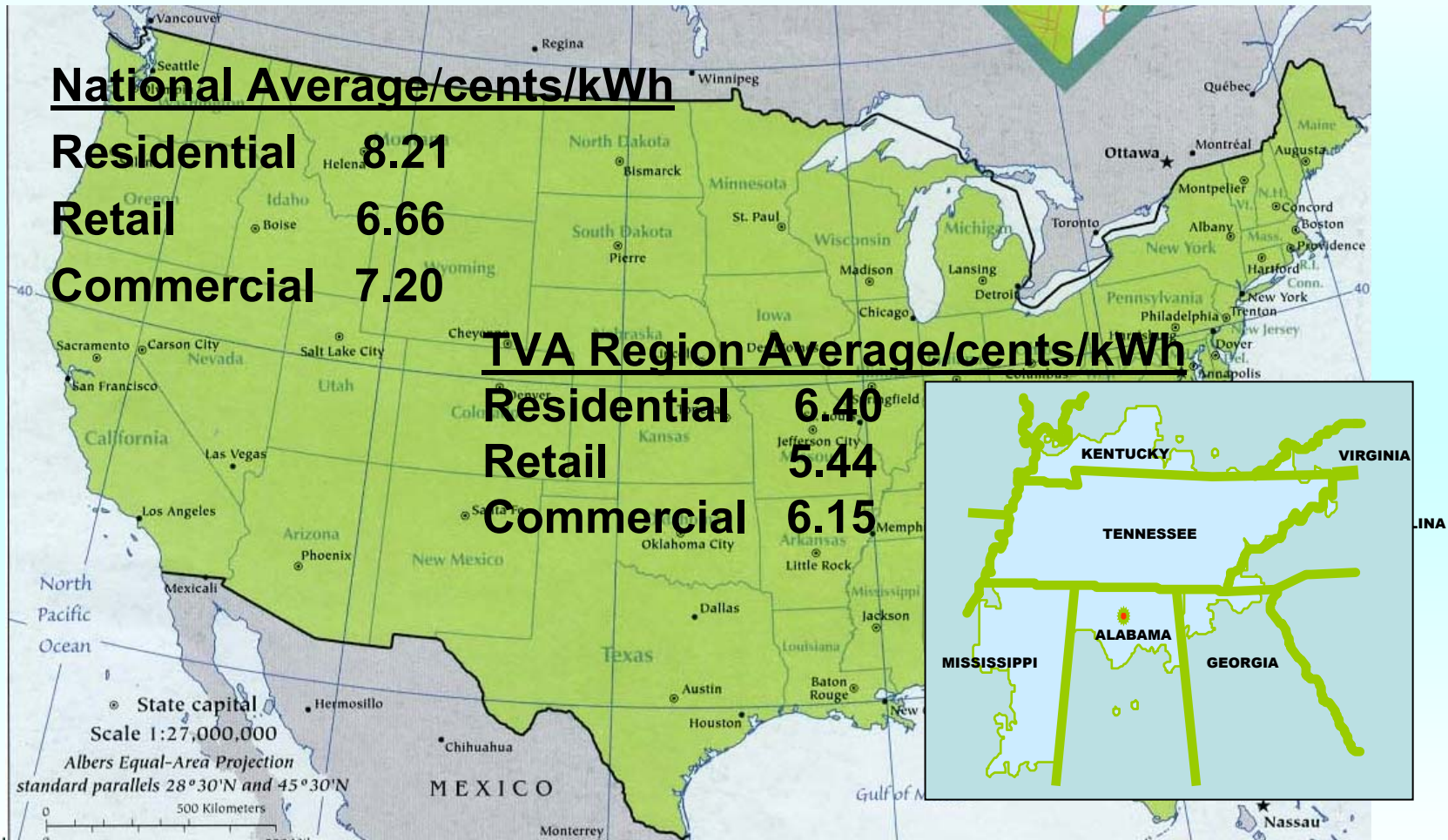
Distributors

- Municipal Utilities
- Electrical Cooperatives

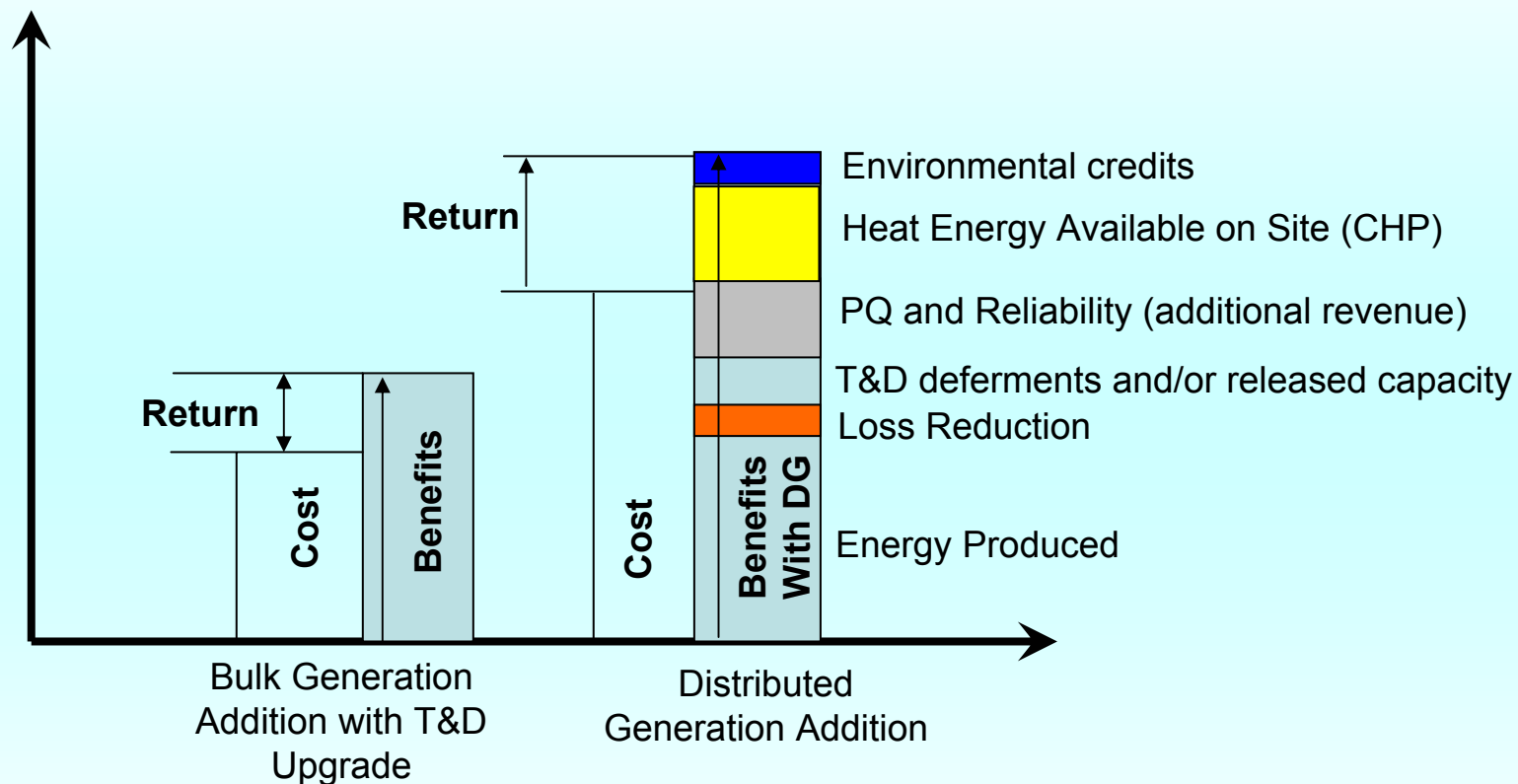


**62 Directly Served
Customers**

TVA Historically Low Electric Rates

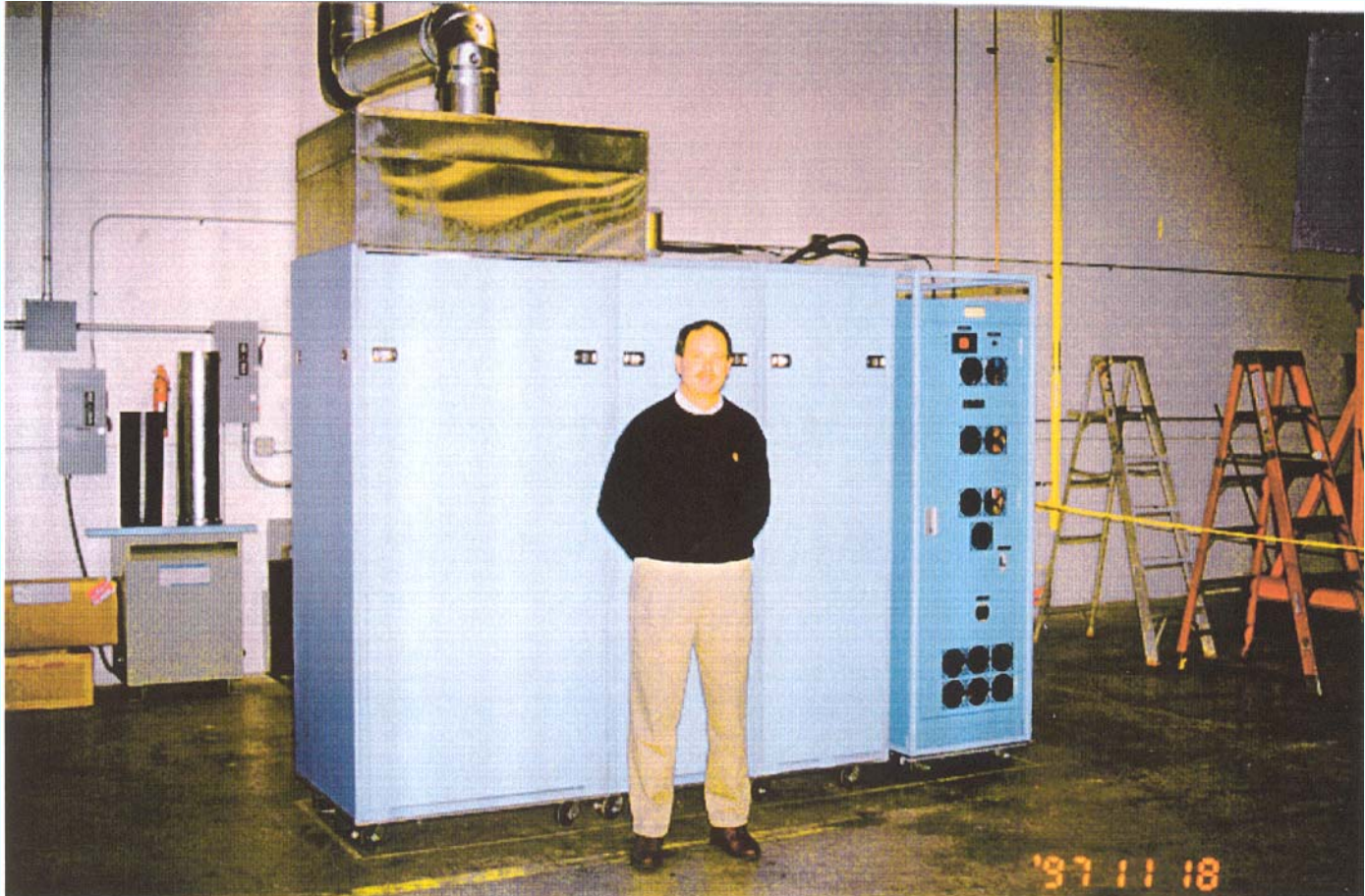


Perspective on Potential DG Value....Requires Supplemental Benefits for Someone



Technology – Potential CHP Source

25kW Planar SOFC System



Green Power – Renewable Resource Based DR

Solar



BP Amoco

SOLAREX

- ◆ Solar Facilities - TVA Ownership
- ◆ Total of 225 kW
- ◆ Operational: April - June

Wind



enxco

- ◆ Wind Facilities - TVA Ownership
- ◆ 2 MW (3 Turbines)
- ◆ Operational: September

Landfill



Energy Developments

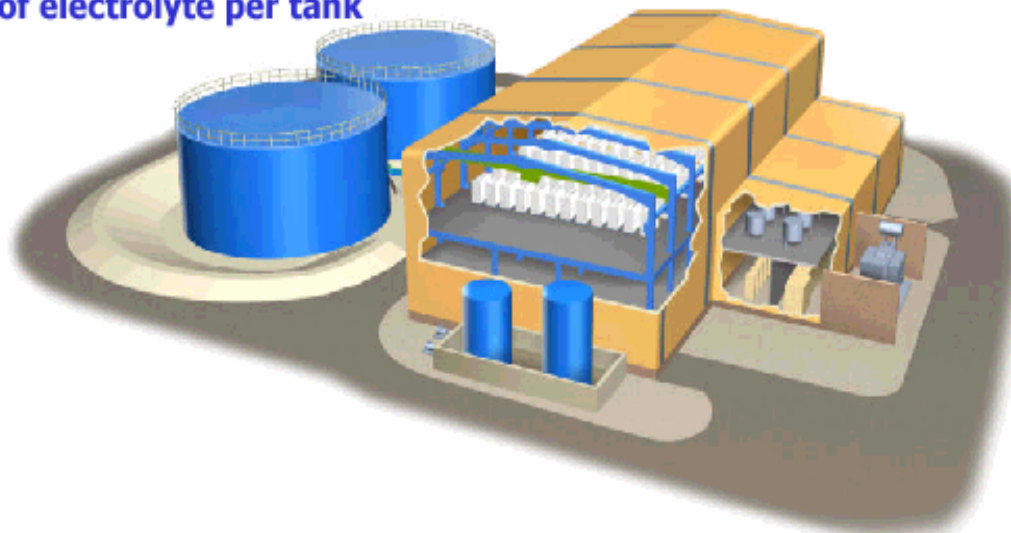
- ◆ Landfill Gas Facilities - 15 year PPA
- ◆ 6.5 MW
- ◆ Operational: December

DR - Energy Storage

The Regenesys system

Artists impression of utility scale plant design

1800 m³ of electrolyte per tank



Regenesys

120 MWh - designed for 10 hrs discharge
Based on nominal 100kW module



Technology Assessment and Evaluation



- Fuel Cells**
- Visiting, assessing various programs
 - Testing initial field units
 - Industry consortiums to promote technology



- Microturbines**
- Visiting various facilities
 - Testing near commercial systems
 - Interest in CHP applications



Reciprocating Engines

- Established reciprocating engine test center
- Testing alternative renewable based / low emission fuels.

EPRI PEAC/ORNL Collaboration

CHP Activities

- Emphasis on using existing labs/facilities in TVA region e.g. DG seminar for TVA Distributors-
CHP Benefit Outlined
- TVA supporting Interconnection/PQ aspects of upcoming ORNL Fuel Cell CHP Demonstration at NTRC.
- TVA/ORNL jointly evaluating potential project with State of Mississippi for microturbine CHP application.